

PATENT

Atty. Dkt. No. APPM/007669.P1/PPC/ECP/RKK

REMARKS

This is intended as a full and complete response to the Office Action dated September 12, 2005, having a shortened statutory period for response set to expire on December 12, 2005. Please reconsider the claims pending in the application for reasons discussed below.

In the specification, the paragraphs [0013], [0053], [0058], [0067], [0068], [0077], and [0088] have been amended to correct minor editorial problems.

Claims 1-32 remain pending in the application and are shown above. Claims 26 - 28 are cancelled by Applicant. Claims 1-32 stand rejected. Reconsideration of the rejected claims is requested for reasons presented below. Claims 13 and 25 are amended.

Claims 1-32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1-21 of copending United States Patent Application No. 10/438,624, in view of United States Patent Application No. 10/268,284 and United States Patent Application No. 10/823,849. A provisional terminal disclaimer over US 10/438,624 is enclosed with this response.

Claims 13-17, 19-24, and 26-27 stand rejected under 35 USC § 102(b) in view of *Dordi, et al* (U. S. 6,267,853). Applicant respectfully traverses the rejection. Claims 26 and 27 have been canceled. *Dordi* provides a spin rinse dry (SRD) station 212 in a mainframe 214 and an anneal station 211 in a loading station 210. *Dordi* does not describe a stacked annealing station since only one annealing chamber is described. Therefore, *Dordi*, alone or in combination, does not teach, show, or suggest a plurality of plating cells positioned on a common platform, a cleaning cell positioned on the platform, an annealing station positioned in communication with at least one of the mainframe and the loading station, and a multi-chemistry fluid delivery system positioned in communication with the platform and in fluid communication with the plurality of plating cells, the fluid delivery system being configured to mix and distribute a plurality of fluid solutions to each of the plurality of plating cells, wherein the annealing station is a stacked substrate annealing station and each chamber in the stacked substrate annealing station has a substrate heating plate and a substrate cooling plate

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adjacently positioned therein, as recited in amended claim 13, and claims 14-17 and 19-24 dependent thereon. Withdrawal of the rejection is respectfully requested.

Claims 1-2, 4-6, 8-11, 25 and 28-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dordi* in view of *Sendai, et al.* (U.S. 6,558,518). Applicant respectfully traverses the rejection. Claim 28 is canceled. *Dordi* does not describe a stacked annealing station since only one annealing chamber is described. *Sendai* illustrates stacking an anneal chamber 203 or 204 in combination with individual substrate water cleaning and drying units 205 and 206. *Dordi* and *Sendai*, alone or in combination, do not teach, show, or suggest a substrate loading station positioned in communication with a mainframe processing platform, at least one substrate plating cell positioned on the mainframe, at least one substrate bevel cleaning cell positioned on the mainframe, and a stacked substrate annealing station positioned in communication with at least one of the mainframe and the loading station, each chamber in the stacked substrate annealing station having a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in claim 1, and claims 2, 4-6, and 8-11 dependent thereon.

Dordi and *Sendai*, alone or in combination, do not teach, show, or suggest a plurality of plating cells positioned on a common platform, a cleaning cell positioned on the platform, a stacked annealing station positioned in communication with at least one of the mainframe and the loading station, and a multi-chemistry fluid delivery system positioned in communication with the platform and in fluid communication with the plurality of plating cells, the fluid delivery system being configured to mix and distribute a plurality of fluid solutions to each of the plurality of plating cells, wherein each annealing chamber in the stacked substrate annealing station has a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in amended claim 13, and claim 25 dependent thereon.

Dordi and *Sendai*, alone or in combination, do not teach, show, or suggest an electrochemical plating cell positioned on a processing platform, the electrochemical plating cell comprising a cell body configured to contain a plating solution and having an overflow weir positioned thereon, an anode positioned in the cell body, an ionic membrane positioned across the cell body at a position above the anode and below the

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overflow weir, the ionic membrane separating an anolyte compartment below the membrane from a catholyte compartment above the membrane, and a porous diffusion member positioned in the cell body above the membrane and below the overflow weir, a substrate cleaning cell positioned on the processing platform, and a stacked substrate annealing station positioned in communication with the processing platform, as recited in claim 29, and claims 30-32 dependent thereon. Withdrawal of the rejection is respectfully requested.

Claims 7 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dordi* in view of *Sendai*, and further in view of *Woodruff, et al* (US Patent Application Publication 2001/0032788). Applicant respectfully traverses the rejection. *Dordi* does not describe a stacked annealing station since only one annealing chamber is described. *Sendai* illustrates stacking an anneal chamber 203 or 204 in combination with individual substrate water cleaning and drying units 205 and 206. *Woodruff* has individual substrate annealing stations. *Dordi*, *Sendai*, and *Woodruff* alone or in combination, do not teach, show, or suggest a substrate loading station positioned in communication with a mainframe processing platform, at least one substrate plating cell positioned on the mainframe, at least one substrate bevel cleaning cell positioned on the mainframe, and a stacked substrate annealing station positioned in communication with at least one of the mainframe and the loading station, each chamber in the stacked substrate annealing station having a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in claim 1, and claims 7 and 12 dependent thereon. Withdrawal of the rejection is respectfully requested.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Dordi* in view of *Woodruff*. Applicant respectfully traverses the rejection. *Dordi* does not describe a stacked annealing station since only one annealing chamber is described. *Woodruff* has individual substrate annealing stations. Therefore, *Dordi* and *Woodruff*, alone or in combination, do not teach, show, or suggest a plurality of plating cells positioned on a common platform, a cleaning cell positioned on the platform, an annealing chamber positioned in communication with the platform, a multi-chemistry fluid delivery system positioned in communication with the platform and in fluid communication with the plurality of plating cells, the fluid delivery system being

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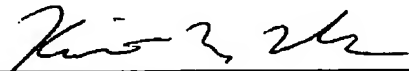
configured to mix and distribute a plurality of fluid solutions to each of the plurality of plating cells, and a stacked substrate annealing station positioned in communication with at least one of the mainframe and the loading station, each chamber in the stacked substrate annealing station having a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in amended claim 13, and claim 18 dependent thereon. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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